What is the spectrum of histopathological diagnoses detected in hysterectomy specimens performed for benign conditions? Five years' experience at the university hospital in Yozgat, a rural region of Turkey

Histopathological diagnoses of hysterectomies in Yozgat province

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Abstract

Aim: Hysterectomy is among the most common major surgical procedures performed in women. Approximately 450.000 hysterectomy procedures are performed each year in the United States for benign indications. The aim of this study was to evaluate hysterectomy procedures performed for benign conditions in terms of indications and histopathological results at a university hospital in a rural region of Turkey and correlate our results with the current data in the literature. Material and Method: A total of 41 total abdominal and vaginal hysterectomy materials performed for benign conditions were screened from the archive of Department of Pathology in Bozok University School of Medicine between January 2012 and December 2016. The hysterectomy indications and histopathological diagnosis of the hysterectomy specimens were re-evaluated, retrospectively. Demographical features were noted from the hospital records. PASW Statistics version 18.0 (SPSS Inc. Chicago. IL. USA) was used for statistical analysis. Results: The mean age of the patients was 45.68±4.72 (range: 36-60) years. The most common hysterectomy indication was uterine myoma which was observed in 31 cases (75.6%). The histopathological diagnosis of the hysterectomy materials were documented as follows in descending order; leiomyoma (n: 34, 82.9%), adenomyosis (n: 6, 14.6%), and endocervical polyp (n: 6, 14.6 %). The correlation between the histopathological diagnosis and patient's age was evaluated; however, no statistically significant association was encountered (p>0.05). Discussion: We documented that the mean age of the patients underwent a hysterectomy in our study was lower than the literature, and leiomyoma frequency was generally higher than the literature. Further prospective studies comprising a greater number of patients might be crucial that would evaluate the etiology of these results.

Keywords

Hysterectomy; Benign Diseases; Histopathological Evaluation

Introduction

Hysterectomy is among the most common major surgical procedures performed in women. Approximately 450.000 hysterectomy procedures are performed each year in the United States for benign indications [1]. The most frequent indications for hysterectomy are abnormal uterine bleeding resistant to medical treatment, myoma uteri and endometrial hyperplasia [2]. Other clinical indications are adenomyosis and uterine prolapse. The most common histopathological diagnoses reported for hysterectomy specimens are leiomyoma, adenomyosis and endometrial hyperplasia [2].

The aim of this study to evaluate hysterectomy procedures performed for benign conditions to detect our indications and histopathological results at a university hospital in a rural region of Turkey, and correlate our results with the current data in the literature.

Materials and Method

Case selection

A total of 41 patients that were given informed consent underwent total abdominal hysterectomy or vaginal hysterectomy for benign conditions consecutively between January 2012 and December 2016 at Bozok University School of Medicine were included in the study. The cases operated for malignant or premalignant diseases were excluded. The demographical features (age and gender) of the patients, hysterectomy indications, and histopathological diagnoses were screened from the hospital records and archive of Pathology Department.

Statistical Analysis

PASW Statistics version 18.0 (SPSS Inc. Chicago. IL. USA) was used for statistical analysis. The demographic variables were detected using descriptive statistics. Data were expressed as mean±standard deviation (SD), and percent (%) where appropriate. The Chi-square test was used to correlate histopathological diagnosis and patient's age. P<0.05 was considered as statistically significant.

Results

The age of the patients ranged from 36 to 60 (mean: 45.68±4.72) years. Among 41 cases, 40 (97.5%) were operated by total abdominal hysterectomy procedure, 1 (12.5%) was operated by vaginal hysterectomy procedure.

The most common hysterectomy indication was uterine myoma which was observed in 31 cases (75.6%). The other indications were as follows in a descending order: abnormal uterine bleeding resistant to medical treatment (n:6, 14.7%), uterine prolapse (n:2, 4.9%), uterine atony (n:1, 2.4%), and endometrial hyperplasia (n:1, 2.4%) (Table 1).

The histopathological diagnoses of the hysterectomy materials were documented as follows in a descending order; leiomyoma (n:34, 82.9%) (mean age: 46.00±3.90, range:36-52 y), adenomyosis (n:6, 14.6%) (mean age:45.14±4.44, range:39-51 y), endocervical polyp (n:6, 14.6 %) (mean age:49.00±2.75, range:46-52 y), chronic endometritis (n:4, 9.8%) (mean:46.00±2.16, range:44-49 y), simple endometrial hyperplasia (n:2, 4.9%) (mean age:43.50±0.70, range:44-45 y), endometrial polyp (n:2, 4.9%) (mean age:44.50±0.70, range:43-44 y), and smooth mus-

cle tumor with undetermined significance (STUMP) (n:1, 2.4%) (44 y) (Table 2). Among those cases diagnosed as leiomyoma, 1 (2.4%) (49 y) case was subtyped as cellular leiomyoma, 1 (2.4%) (43 y) case was subtyped as mitotic active leiomyoma (Table 2). Concurrent different lesions were found in 17 (41.4%) cases. Concurrent leiomyoma and endocervical polyp was detected in 8 (19.5%) (mean age:49.00±2.75, range:46-52 y) cases; leiomyoma and adenomyosis was detected in 4 (9.8%) (mean age:46.50±4.20, range:41-51 y) cases; leiomyoma and endometritis was detected in 4 (9.8%) (mean: 45.75±2.50, range:43-49 y) cases; simple endometrial hyperplasia, endometrial polyp and leiomyoma was detected in 1 (2.4%) (45 y) case; simple endometrial hyperplasia and leiomyoma was detected in 1 (2.4%) (43 y) case (Table 3).

Leiomyoma, adenomyosis, chronic endometritis, simple endometrial hyperplasia, and endometrial polyp were mostly detected in the patients younger than 50 years (Table 4). The correlation between the histopathological diagnosis and patient's age was evaluated; however, no statistically significant association was encountered (p>0.05) (Table 4).

Table 1. Clinical indications of hysterectomy (n: 41).

Indications	Number (n)	Ratio (%)
Uterine myoma	31	75.6
Abnormal uterine bleeding resistant to medical treatment	6	14.7
Uterine prolapse	2	4.9
Uterine atony	1	2.4
Endometrial hyperplasia	1	2.4

Table 2. Histopathological diagnoses detected in hysterectomy specimens.

Histopathological diagnoses	Number of cases (n %)	Age (Mean±SD, range)
Leiomyoma	34 (82.9)	46.00(±3.90 36-52)
Cellular leiomyoma	1 (2.4)	49
Mitotic active leiomyoma	1 (2.4)	43
Adenomyosis	6 (14.6)	45.14(±4.44 39-51)
Endocervical polyp	6 (14.6)	49.00(±2.75 46-52)
Chronic endometritis	4 (9.8)	46.00(±2.16 44-49)
Simple endometrial hyperplasia	2 (4.9)	43.50(±0.70 44-45)
Endometrial polyp	2 (4.9)	44.50(±0.70 43-44)
STUMP	1 (2.4)	44

STUMP: smooth muscle tumor of undetermined significance

Table 3. Concurrent different lesions detected in hysterectomy specimens.

Concurrent lesions	Number of cases (n %)	Age (Mean±SD, range)
Leiomyoma and endocervical polyp	6 (14.6)	49.00(±2.75 46-52)
Leiomyoma and adenomyosis	4 (9.8)	46.50(±4.20 41-51)
Leiomyoma and endometritis	4 (9.8)	45.75(±2.50 43-49)
Simple endometrial hyperplasia and leiomyoma	1 (2.4)	45
Simple endometrial hyperplasia, endometrial polyp and leiomyoma	1 (2.4)	43

Table 4. Correlation with patient's age and histopathological diagnoses in hysterectomy specimens.

Histopathological Diagnosis	Age <50	≥50	P value*
Leiomyoma	26	8	0.371
Adenomyosis	5	1	0.628
Endocervical polyp	3	3	0.094
Chronic endometritis	4	0	0.371
Simple endometrial hyperplasia	2	0	0.619
Endometrial polyp	2	0	0.619

* Chi square test

Discussion

Hysterectomy is the most common gynecologic surgical procedure performed after cesarean section. It is applied for the treatment of leiomyoma, dysfunctional uterine bleeding, pelvic inflammatory disease, adenomyosis, endometriosis, gynecological cancers, uterovaginal prolapse, chronic pelvic pain, obstetric complications, and gestational trophoblastic diseases [3-6]. The mean age of the patients who underwent hysterectomy varies among different studies in the literature. İşgüder et al. [3] have reported the mean age as 50.48±7.50 (range: 38-74), İsaoğlu et al. [2] reported as 46±5.78 (range: 36-68), Turgut et al. [7] reported as 48.18±5.87 (range: 39-67), Dinçgez et al. [8] reported as 50.54±9.5 years. The mean age of the patients in our study is 45.68±4.72 (range: 36-60) and significantly lower than that of similar studies [3,7,8].

The most frequent hysterectomy indications in the study of İşgüder et al. were leiomyoma (45.3%) [3]. Dysfunctional uterine bleeding, endometrial hyperplasia, uterine prolapse, chronic pelvic pain, and adenomyosis were the other indications respectively as 29.49%, 12.9%, 10%, 1.2%, and 1.2% [3]. İsaoğlu et al. reported the most common indication for hysterectomy as abnormal uterine bleeding (33.72%). Myoma (28.29%) and endometrial hyperplasia (25.96%) were the other indications in a descending order of frequency [2]. Turgut et al. documented similar frequency of hysterectomy indications as İsaoğlu et al. [2] as follows: abnormal uterine bleeding (75%), myoma (12.50%) and endometrial hyperplasia (6.25%), respectively [7]. Dinçgez et al. reported leiomyoma (32.77%), adnexal masses (14.65%) and pelvic organ prolapse (13.49%) in a decreasing order of frequency for hysterectomy indications [8]. In our study, the most common indication was myoma (75.6%), which is similar to the studies of İsgüder et al. and Dinçgez et al. It is also striking that frequency of myoma was higher than the other studies [2,3,7,8]. The other indications were as follows: abnormal uterine bleeding, uterine prolapse, uterine atony, and endometrial hyperplasia (14.7%, 4.9%, 2.4%, and 2.4%, respectively) in the present study.

Histopathological evaluation of hysterectomy materials revealed leiomyoma (51.2%), adenomyosis (20.5%), endometrial hyperplasia (18.3%), endometrial polyp (10%), and atrophic endometrium (4.1%) in the study of İşgüder et al. [3]. Ojeda et al. showed that 44.0% of the hysterectomy cases were leiomyoma, 22.3% of them were endometrial hyperplasia, 12.23% were malign disorders, and 6.44% were endometriosis [9]. Atılgan et al. evaluated 361 hysterectomy specimens and demonstrated uterine myoma of 40.16%, endometrial hyperplasia of 38.22%, adenomyosis of 25.48% and endometrial polyp of 8.86% [10]. Isaoglu et al. showed 32.17% cases of leiomyoma, 30.23% cases of adenomyosis, 29.84% cases of endometrial hyperplasia and 5.04% cases of endometrial polyp [2]. Turgut et al. documented the most common lesion was leiomyoma (46.87%) followed by adenomyosis (12.50%), endometrial hyperplasia (9.38%), endometrial polyp (3.13%) and combined pathologies (21.87%) [7].

Uterine leiomyoma is the most common benign tumor of the female pelvis and uterus and constitutes the most common soft-tissue tumor. In postmortem examinations, it was detected in 50% of women. It is the most common lesion detected in hysterectomy specimens in many studies [2,3,7,9,10]. The leiomyoma incidence varies from 32.17% to 77% in the literature [2,3,7,9,10]. In our study that leiomyoma incidence was 82.9% which is more than the literature.

Adenomyosis is characterized by the presence of endometrial glands and stroma within the myometrium. Patients are typically pre- or peri-menopausal women who present with abnormal bleeding [11]. In adenomyosis, the uterus grows diffusely and is often accompanied by uterine leiomyomas [12]. Adenomyosis is the second most common lesion in our study and is the second most common lesion, as in the studies of İsaoğlu et al. [2], Turgut et al. [7] and İşgüder et al. [3] It is the third most common lesion as in the studies of Ojeda et al. [9] and Atılgan et al. [10].

In summary, we analyzed the spectrum of the lesions in hysterectomy specimens in our archives. We documented that the mean age of the patients underwent a hysterectomy in our study was lower than the literature, and leiomyoma frequency was generally higher than the literature. Further prospective studies comprising a greater number of patients might be crucial that would evaluate the etiology of these results.

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How to cite this article:
Şahin S, Yanık S, Onat T, Kara M, Tanın ÖŞ, Aytekin B, Yalvaç ES. What is the Spectrum of Histopathological Diagnoses Detected in Hysterectomy Specimens Performed for Benign Conditions? Five Years' Experience at the University Hospital in Yozgat, a Rural Region of Turkey. J Clin Anal Med 2018;9(1): 38-41.